

A follow-up intervention study on the effectiveness of pronunciation instruction to EFL learners at a Japanese college

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ABSTRACT

Forty-five Japanese university students participated in a 9-week English pronunciation instruction, in which the learners practiced segmentals and suprasegmentals in controlled activities with a focus on the accuracy (focus on forms) and practiced them in meaningful communication contexts while paying attention to the pronunciation (focus on form). They received the total of 6 hours of pronunciation instruction. The participants read a diagnostic passage before and immediately after the instruction. Eighteen native speakers of English rated the comprehensibility (ease of understanding) and the accentedness (how different from NS's norms) of the utterances produced before and after the instruction by the learners in the experimental group. The results were compared with those of a control group who had been previously used in my research. Analyses showed that neither of the experimental nor the control group showed any improvement in terms of comprehensibility or accentedness. This paper suggests possible reasons for the lack of improvement and future areas for further investigation into better pronunciation instruction.

Key words: pronunciation instruction, EFL learners, FonFS, FonF, comprehensibility, accentedness

INTRODUCTION

Pronunciation instruction for ESL/EFL learners has been neglected in many classrooms, although it plays a crucial role in oral communication. This seems partly because not enough empirical research has been conducted to convince teachers to deal with this issue in their classrooms. Moreover, teacher education programs in Japan have tended to neglect this skill (Taguchi, 2012). In order to ascertain whether formal pronunciation teaching can improve EFL learners as I did in my previous research (Chiba, 2012), a small-scale intervention study has been conducted to measure how much those who received pronunciation

instruction improved their comprehensibility¹ and accentedness² of their speech.

Chiba's study showed that formal pronunciation instruction seemed to make the learners' speeches more comprehensible when compared with a control group. I will not go into details of the study here, but let me review a couple of points that appeared to bring about such a positive outcome. One of them was a balanced approach that involved teaching both segmentals and suprasegmentals. Although Derwing and Rossiter (2003) suggests that more emphasis should be placed on suprasegmentals in teaching pronunciation, ignoring segmentals is impractical because speech would be unintelligible without a threshold level of accuracy in vowels and consonants, especially when confusing minimal pairs appear. Whether segmentals or suprasegmentals, teaching such items that are considered to be problematic to a certain group of learners would be effective.

Not only should the approach be balanced, but also the focus should be carefully considered. Pronunciation is closely related to meaning at the discourse level and must be presented to students in that way and practiced accordingly (Naiman, 1992, p.163). This does not mean, however, mechanical drills should be totally abandoned (Celce-Murcia et al., 2010). Learners need to have a chance to learn how to make sounds accurately and fluently. Instruction should provide them with explicit information about sound articulation. Mechanical exercises should also be followed by fluency-promoting activities to use sounds in a communicative framework. Although the terms focus-on-forms (FonFS) and focus-on-form (FonF) are usually used in morphology, syntax and pragmatics, I decided to employ them to describe my pronunciation instruction designs. The primary rationale is that "form" can refer to any aspect of any linguistic form, including pronunciation, as suggested by Ellis, Basturkmen and Loewen (2002). Activities that employed audiolingual techniques such as minimal pair drills and substitution drills to promote accuracy of certain sounds in isolation were called "instruction FonFS." Communicative activities to convey a message with certain attention to the pronunciation were called "instruction FonF."

This study, that uses a combination of FonFS and FonF, attempts to follow up on my preceding pronunciation instruction research – teaching both segmentals and suprasegmentals within FonFS and FonF frameworks to 10 EFL learners - investigating whether such an instruction is effective for a different group of EFL learners.

1 Comprehensibility was a listener's perception of how difficult it was to understand the speaker (adapted from Derwing et al. (1997)).

2 Accentedness was a listener's perception of how different the speaker's accent was from native speakers' in general (adapted from Derwing et al. (1997)).

METHOD

The basic outlines of the method are the same as Chiba 2012.

Research Questions

This study explores the following research questions:

1. Will the respondents improve their comprehensibility after receiving FonFS and FonF pronunciation instruction?
2. Will the respondents improve their accentedness after receiving FonFS and FonF pronunciation instruction?

Hypotheses

Hypothesis 1: There will be a statistically significant ($p < .05$) improvement in the pre- and post-tests in terms of comprehensibility after receiving FonFS and FonF pronunciation instruction.

This group of students has not had a chance to learn about communicative aspects of English pronunciation based on the survey about their previous pronunciation learning experiences (Taguchi, 2012). The majority of the instruction the participants had previously received consisted of repeating words and sentences and learning about word stress and intonation without practicing pronunciation in any meaningful contexts. This suggests that there was considerable room for their pronunciation improvement through formal learning.

Hypothesis 2: There will be a statistically significant ($p < .05$) improvement in the pre- and post-tests in terms of accentedness after receiving FonFS and FonF pronunciation instruction.

Again, the students' accentedness at a pre-test should be something that they learned by themselves although all respondents have learned English at least since junior high school. The pronunciation learning survey results (Taguchi, 2012) show that the respondents had an average of 10 minutes' instruction, a few times a week, in junior high and senior high school. I think such instruction is too short for EFL learners to acquire good pronunciation skills. The working hypothesis is that through instruction with clear explanation and practice as above, the learners' utterances will be less heavily accented than before.

Participants

The participants in this study consisted of 45 first-year undergraduate economics majors at a mid-ranking

private university in Tokyo, Japan. The demographic characteristics of this sample are summarized in Table 1.

Table 1
A Demographic Profile of the Student Participants in the Study

Gender	Experimental Group		Control Group	
	Male	Female	Male	Female
	23	22	5	5
L1	Japanese		Japanese	

The experimental group consisted of two classes of students taught by the author. One class had 22 students and the other 23. They attended my weekly 90-minute English class and for about 20 minutes each time, they learned both segmental and suprasegmental aspects of pronunciation through explicit explanation followed by audiolingual type activities (FonFS) as well as communicative ones (FonF). A control group of students, whose speeches were collected for my previous research (Chiba, 2012), also attended my weekly 90-minute English course in 2010, in which they learned English mainly through listening and speaking activities without receiving explicit pronunciation instruction. The ten students of the control group were randomly chosen as research subjects.

Treatment

Pronunciation Instruction Time

The 45 students in the experimental group received weekly 20-minute pronunciation lessons regularly over the course of 9 weeks, starting in April 2012 and ending in mid- July 2012. The total pronunciation instruction time was 6 hours. The students in the control group attended the regular English course in 2010 but received no explicit pronunciation lessons. A more detailed pronunciation schedule is in Appendix, and a sample lesson is found in Chiba, 2012.

Items Dealt with in the Lessons

The instruction in this study dealt with both segmentals and suprasegmentals following Avery and Ehrlich (2008, pp. 134-138), which focuses on certain sounds that Japanese speakers need to focus on.

Approach and Materials

As mentioned above, pronunciation teaching for ESL/EFL learners can be hypothesized to be effective when it incorporates communicative activities (FonF) followed by explicit instruction of the target pronunciation and controlled practice (FonFS). Therefore, as in my previous research, I used Baker and Goldstein's *Pronunciation Pairs* (2008) as a pronunciation course textbook. It ranges from specified

information as to the articulation of target sounds and key points to produce intended sound patterns to games in which the focus of the activities is to communicate.

Data Collection

To measure the improvement in the participants' pronunciation, a diagnostic passage from *Clear Speech* was recorded before and after instruction. There was no detected practice effect from reading the same dialog at both times according to repeated-measures of ANOVAs for the control group in terms of comprehensibility and accentedness. For details of the specific numbers and the diagnostic passage, see Chiba, 2012.

The participants individually recorded their dialog readings into an IC-recorder at a quiet classroom as pre- and post-tests as Figure 1 shows. (The recording and the lessons for the experimental group were conducted in 2012, while those for the control were in 2010.)

- | |
|--|
| <ol style="list-style-type: none">1) Pre-test –dialog recording (all participants)2) Lessons (6 hours in 9 weeks)
70-minute weekly lessons & 20-minute weekly pronunciation lessons (experimental group only)
90-minute weekly lessons (control group only)3) Post-test –dialog recording (all participants) |
|--|

Figure 1. The procedure used in this study.

I told the students in both groups that they needed to read the text clearly. After the recording, the dialog text was collected from all the students and not practiced during the course of the instruction in either of the groups.

Assessment

The collected speeches were rated by 18 American college students in terms of comprehensibility and accentedness according to a 5 point-Likert scale. In order to mitigate the level of rater fatigue, four rating sessions were held during the second and the third week of September 2012, at a quiet classroom on campus. Eight raters participated in Session 1, 2 raters in Session 2, 4 raters in Session 3, and 4 raters in Session 4. Each session consisted of a 5-minute explanation about the study, a 10-minute training session and a 35-minute assessment session. For further information about the rationale for the rating criteria refer to Chiba, 2012.

Twenty-four speeches were evaluated by 8 raters during Session 1, 22 by 2 raters during Session 2, 22 by 4

raters in Session 3 and 22 by 4 raters in Session 4. In total, ninety different speeches produced by 45 Japanese students at Time 1 and 2 were assessed. The raters had no idea whether they were listening to a speech from the pre-test or the post-test. In order to ascertain the inter-rater reliability, the Cronbach' alpha was calculated for Sessions 1, 3 and 4 and Pearson's correlation for Session 2 (Table 2).

Table 2
Cronbach alpha for Sessions 1, 3 and 4 and Pearson's Correlation for Session 2

	Session 1	Session 2	Session 3	Session 4
Number of speeches	24	22	22	20
Number of raters	8	2	4	4
Comprehensibility	.795	.264	.656	.631
Accentedness	.821	.367	.814	.496

The numbers reveal that the ratings in Sessions 1 and 3 were within acceptable ranges in terms of reliability, while those in Sessions 2 and 4 were not. Therefore, only the speeches rated in Sessions 1 and 3 will be analyzed further on.

RESULTS

Comprehensibility Ratings

The descriptive statistics for the comprehensibility ratings were on a 5-point Likert scale in which 1 means "extremely easy to understand" and 5, "extremely difficult to understand." Table 3 shows the group means and standard deviations for each of the two groups over time, as well as the effect sizes (as measured by Cohen's *d*). Moreover, the group means are plotted in Figure 2.

Table 3
*Group Means, Standard Deviations for Comprehensibility and Cohen's *d**

Groups	Pre-test		Post-test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Experimental (<i>n</i> =23)	3.09	0.53	3.24	0.60
Control (<i>n</i> =10)	3.42	0.68	3.24	1.18
Cohen's <i>d</i>	0.54		0.00	

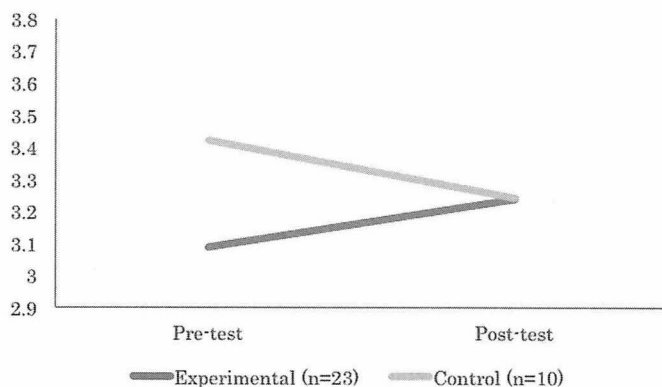


Figure 2. Group means on comprehensibility ratings over time. The higher the number, the less comprehensible.

This data clearly indicates that the experimental group did not show any statistically significant improvement after the pronunciation instruction. Although the experimental group appeared slightly better at the onset than the control, by the post-test the two groups became synonymous.

In order to ascertain whether the two groups had statistically significant differences in terms of comprehensibility at the pre-test, a t-test was conducted. As a result, the null hypothesis that there was no statistically significant difference between the two groups ($t(31) = 1.504, p = .143$) was accepted. The effect size according to Cohen's d was 0.54, which is considered "moderate" (Mackey & Gass, p.283). The control group and the experimental group were probably starting on roughly equal footing in terms of comprehensibility.

Accentedness Ratings

Group means, standard deviations and effect sizes for the accentedness rating appear in Table 4, and the means are plotted in Figure 3.

Table 4
Group Means, Standard Deviations for Accentedness and Cohen's d

Groups	Pre-test		Post-test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Experimental ($n=23$)	3.79	0.52	3.73	0.59
Control ($n=10$)	3.66	0.71	3.67	0.81
Cohen's d	0.21		0.08	

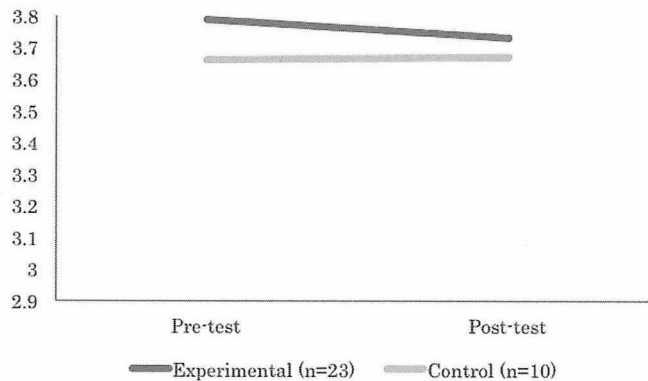


Figure 3. Group means on accentedness ratings over time. The higher the number, the more accented.

The two groups changed very little over time in terms of accentedness ratings. Although superficially the two groups appear to be different at the onset, the t-test results indicate that they did not differ significantly ($t(31) = .618, p = .541$), with Cohen's d at 0.21, which is "small" according to Mackey & Gass, 2005. At the post-test, the two groups became almost the same, with Cohen's d at 0.08.

DISCUSSION

This research has sought to follow up on my previous study as to whether FonFS and FonF pronunciation instruction appears to improve some Japanese college students' English pronunciation. The results suggested that neither comprehensibility nor accentedness was significantly improved. Like my preceding study, I predicted again that both comprehensibility and accentedness would improve mainly because the participants in the experimental group had not received pronunciation instruction before, according to my survey results about their learning histories (Taguchi, 2012).

These results contrast with my 2010 results as reported in Chiba, 2012. That study suggested that the experimental group did show a statistically significant improvement in terms of their comprehensibility. Possible reasons for the lack of improvement this time will now be considered.

The most obvious difference between the 2010 and 2012 experimental groups was in terms of their participation. As explained in Chiba 2012, the experimental group in 2010 seemed more willing to acquire English pronunciation and invest time in voluntarily taking pronunciation lessons twice a week for 12 weeks. By contrast, the 2012 experimental group learned pronunciation in their regular required English course.

Another difference between the current study and that of 2010 was class size. While a group of 10 students learned in the previous instruction, a group over twice that size received pronunciation lessons this time. I could therefore not make sure whether all students understood the explanations or monitor them closely. The

combination of possible lower motivation along with bigger class size might explain the lack of improvement.

The instruction period also differed between the two experimental groups. At this point, the rationale for the shorter instruction period for this study needs to be explained. Since the ultimate goal of my research is to investigate whether classroom pronunciation teaching can be effective, I ventured to use some of my regular English courses this time. Although I had a chance to teach in the same framework in terms of size and frequency as regular classrooms, due to some curricular constraints, I could not allocate the whole class time solely for pronunciation teaching. As the result, the total time spent for the instruction was only 6 hours over the course of 9 weeks. Had more time been spent, the performance of the participants might have been different.

Areas for Future Research

The current study showed that the 9-week instruction made no positive changes in the participants' comprehensibility or accentedness. Comparing these results with my 2010 study, three factors that may account for this outcome have been suggested: (1) participant characteristics (voluntary vs. required), (2) class size differentials, and (3) instructional length (20 hrs. vs. 6 hrs.). Future studies should consider these factors to improve classroom teaching.

In addition, a better way to secure good rater-reliability for speech analysis is needed. Due to the low reliability ratings, I had to discard two sets of data, comprising about half of the total samples collected. I need to research why those two sets had such low reliability ratings by carefully looking at the listeners' comments and background information and listening to speeches that were confounding in order to explore factors influencing listeners' judgment.

Future studies should also employ different assessment methods. Utilizing not only controlled tasks but also free tasks such as narratives should be employed to evaluate pronunciation as Munro (2008) points out. Moreover, employing non-native speakers of English in assessment sessions should be considered because native English speakers are not the majority of those using English now.

Qualitative analysis on the participants' speeches would reveal factors especially influencing comprehensibility, and this will lead to a concentrated pronunciation instruction design that may fit into a curriculum with time constraints.

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APPENDIX

Pronunciation Instruction Schedule for the 2012 Experimental Group

	Month	Date	Content	Units in Pronunciation Pairs
1	April	21	/iy/, stressed syllables in words	1
2		28	/t/, stress in numbers	2
3	May	12	/e/, falling and rising intonation	3
4		19	/ey/, stress in sentences	4
5		26	/æ/, the most important word	5
6	June	2	review	6
7		9	/ʌ/, strong and weak pronunciations	7
8		16	/ə/, 'can' and 'can't'	8
9		23	/ər/, intonation in choice questions	9